

641—14.4(714) Performance testing. All water treatment systems must be performance tested in accordance with approved protocols by a third-party testing agency.

14.4(1) Approval of performance testing protocols. State hygienic laboratory must approve testing protocols for the performance testing of water treatment systems. A manufacturer or seller must submit a performance testing protocol to the laboratory for review and approval. Where applicable, the information must include, but not necessarily be limited to, the following:

- a. Name, address and telephone number of the submitter or official representative.
- b. The brand name and model number of each water treatment system requiring performance testing for verification of health-related claims.
- c. A detailed drawing, with part numbers identifying each component of the water treatment system.
- d. Identification of the water treatment system materials which are in direct contact with the water.
- e. Identification of the contaminants claimed to be reduced by the submitter's design.
- f. A detailed description of the performance testing protocol or the National Sanitation Foundation (NSF) Testing Protocol contained within the NSF Standard reference number applicable to the submitter's water treatment system. The performance testing protocol shall include the following conditions and procedures:

(1) A statement clarifying if the water treatment system would be advertised or sold for treatment of water from private wells, public water supplies, or both.

(2) Each water treatment system shall be tested to at least 120 percent of its capacity.

(3) The water used for the performance testing shall be characterized as to its key parameters, i.e., pH, hardness, total dissolved solids (TDS), turbidity, and others as necessary for the evaluation of the water treatment system's performance in the treatment of water from either private wells or public water supply systems, or both.

(4) Procedures shall be included to demonstrate that the test rig without the water treatment system in place has no effect on the water characteristics or on the concentration of any challenge material.

(5) The temperature of the challenge water must be maintained at 20 degrees Celsius plus or minus 2 degrees Celsius throughout the test.

(6) For plumbed-in water treatment systems, the test pressure must be 55 pounds per square inch (PSI) plus or minus 5 PSI during the challenge period.

(7) Samples taken from the influent challenge water immediately prior to the water treatment system being tested are analyzed for the specific challenge material or surrogate deemed suitable by the University Hygienic Laboratory (UHL). Environmental Protection Agency (EPA) approved methods of analysis, where appropriate, are required.

(8) For water treatment systems challenged to 120 percent of capacity, samples shall be collected after the passage of 10 unit volumes of test water without the specific challenge material present and at least 10, 50, 100, and 120 percent of capacity with the specific challenge material present. Additional samples may be collected and included in the test report.

(9) Influent and effluent samples collected for volatile organic compound (VOC) analyses must comply with acceptable methods pertaining to storage and analysis. Samples must be collected in glass vials with Teflon-lined cap septa in accordance with standard EPA protocol.

g. Proposals for modifications or additions to the above requirements must be submitted with the performance testing protocol. The state hygienic laboratory shall determine if the modifications are appropriate and reasonable for the water treatment system to be tested. The state hygienic laboratory may approve using a single testing protocol for a number of water treatment models which are based on the same treatment technology.

14.4(2) Reserved.